

B1
Cmt.

portion for detecting a drive signal having a drive frequency of the detecting polarized portion and a driving polarized portion for receiving the drive signal to produce a flexion vibration wave for oscillating the piezoelectric vibrating member in self-excited oscillation to produce a drive force, the detecting polarized portion being disposed at a portion of the piezoelectric vibrating member which undergoes maximum deformation in at least one vibration mode of oscillation of the piezoelectric vibrating member and being disposed at a position symmetrical about a loop of the flexion vibration wave; and an amplifying circuit for amplifying the drive signal detected by the detecting polarized portion and inputting the amplified signal to the driving polarized portion to oscillate the piezoelectric vibrating member.

3. (Twice Amended) An ultrasonic motor comprising: a piezoelectric vibrating member having a first driving polarized portion for generating a first flexion vibration wave, a second driving polarized portion for generating a second flexion vibration wave having a phase different from that of the first flexion vibration wave, and a detecting polarized portion disposed at a portion of the piezoelectric vibrating member which undergoes maximum deformation in at least one vibration mode of oscillation of the piezoelectric vibrating member and disposed at a position symmetrical about a loop of one of the first flexion vibration wave and the

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second flexion vibration wave for detecting a drive signal having a drive frequency of the detecting polarized portion in accordance with oscillation of the first driving polarized portion; and an amplifying circuit for amplifying the drive signal detected by the detecting polarized portion and inputting the amplified signal to one of the first and second driving polarized portions for oscillating the piezoelectric vibrating member in self-excited oscillation to produce a drive force.

B2

6. (Twice Amended) An ultrasonic motor comprising: a piezoelectric vibrating member having a first driving polarized portion for generating a stretching vibration wave; a second driving polarized portion for generating a flexion vibrating wave, and a detecting polarized portion disposed at a portion of the piezoelectric vibrating member which undergoes maximum deformation in at least one vibration mode of oscillation of the piezoelectric vibrating member and disposed at a position symmetrical about one of a node of the stretching vibration wave and a loop of the flexion vibration wave for detecting a drive signal having a drive frequency of the detecting polarized portion in accordance with oscillation of one of the first driving polarized portion and the second driving polarized portion, respectively; and amplifying means for amplifying the drive signal detected by the detecting polarized portion and inputting the amplified signal to the

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first and second driving polarized portions for oscillating the piezoelectric vibrating member in self-excited oscillation to produce a drive force.

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11. (Twice Amended) An ultrasonic motor comprising: a piezoelectric vibrating member; a driving electrode disposed on the piezoelectric vibrating member for undergoing vertical vibration to vibrate the piezoelectric vibrating member in self-excited vibration to produce a drive force; a detecting electrode for detecting a drive signal having a drive frequency of the detecting electrode in accordance with vibration of the driving electrode, the detecting electrode being disposed at a portion of the piezoelectric vibrating member which undergoes maximum deformation in at least one vibration mode of oscillation of the piezoelectric vibrating member; and an amplifying circuit for amplifying the drive signal detected by the detecting electrode and inputting the amplified drive signal to the driving electrode to vibrate the piezoelectric vibrating member.

12. (Twice Amended) An ultrasonic motor comprising: a piezoelectric vibrating member; a driving electrode disposed on the piezoelectric vibrating member for undergoing torsional vibration to vibrate the piezoelectric vibrating member in self-excited vibration to produce a drive force; a detecting electrode for detecting a drive signal having a drive

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frequency of the detecting electrode in accordance with vibration of the driving electrode, the detecting electrode being disposed at a portion of the piezoelectric vibrating member which undergoes maximum deformation in at least one vibration mode of oscillation of the piezoelectric vibrating member; and an amplifying circuit for amplifying the drive signal detected by the detecting electrode and inputting the amplified drive signal to the driving electrode to vibrate the piezoelectric vibrating member.

B4

41/48. (Amended) An ultrasonic motor comprising: a piezoelectric vibrating member; and a driving circuit for applying an exciting signal to the piezoelectric vibrating member to oscillate the piezoelectric vibrating member in self-excited oscillation, the driving circuit having a detecting electrode for detecting the exciting signal and disposed at a portion of the piezoelectric vibrating member for undergoing maximum deformation in at least one vibration mode of oscillation of the piezoelectric vibrating member, a driving electrode for receiving the exciting signal, and an amplifying circuit for amplifying the exciting signal detected by the detecting electrode and inputting the amplified signal to the driving electrode.